AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1–12. (Cancelled)

13. (Currently Amended) An electronic apparatus forming one of a sensor, an actuator and a control that communicates with at least one additional electronic apparatus via a data bus using a pre-determined communications protocol, the electronic apparatus comprising:

a bus interface;

a control engine that comprises:

an application-specific engine that controls the electronic apparatus independently of the pre-determined communications protocol; and

a bus protocol-specific engine that transmits and receives data via a bus interface;

wherein said application-specific engine and said bus protocol-specific engine are decoupled from one another and said bus protocol-specific engine exchanges application-specific data with said application-specific engine via a standardized interface; and

wherein data received via the standardized interface is converted into the pre-determined communications protocol by the bus-protocol-specific engine and data

received via the bus interface is converted into corresponding application-specific data by the bus-protocol-specific engine.

14. (Previously Presented) The electronic apparatus of claim 13, wherein the control engine includes a plurality of bus protocol-specific engines and a plurality of bus protocols, each of the bus protocol-specific engines being associated with a bus protocol and wherein each bus protocol-specific engine converts application-specific data into the associated bus protocol and converts data received via the bus interface in the associated bus protocol into application-specific data.

15. (Previously Presented) The electronic apparatus of claim 14, wherein a different bus interface is associated with each bus protocol-specific engine.

16. (Previously Presented) The electronic apparatus of claim 14, wherein at least some of the bus protocol-specific engines are associated with a single bus interface and a selection support unit implements a select bus protocol-specific engine.

17. (Previously Presented) The electronic apparatus of claim 16, wherein the bus protocol-specific engine is manually selected using the selection unit.

18. (Previously Presented) The electronic apparatus of claim 16, wherein the bus protocol-specific engine is automatically selected using the selection unit based on a currently implemented bus protocol.

19. (Previously Presented) The electronic apparatus of claim 13, wherein a set of elements is communicated to the control engine, each of which defines a type of permitted application-specific data.

20. (Previously Presented) The electronic apparatus of claim 19, wherein said set of elements includes at least one of variables, methods, messages and events.

21. (Currently Amended) A configuration apparatus for configuring an electronic apparatus that is one of a sensor, an actuator and a control, the configuration apparatus communicating with the electronic apparatus via a data bus using a pre-determined communications protocol and comprising:

a bus interface;

a configuration engine that comprises:

an application-specific engine that controls the configuration apparatus independently of ~~a~~ the pre-determined communications protocol; and

a bus protocol-specific engine that transmits and receives data via a bus interface;

wherein said application-specific engine and said bus protocol-specific engine are decoupled from one another and said bus protocol-specific engine exchanges application-specific data with said application-specific engine via a standardized interface that is common to a standardized interface of the ~~configuration~~ electronic apparatus; and

wherein data received via the standardized interface is converted into the communications protocol by the bus-protocol-specific engine and data received via the bus interface is converted into corresponding application-specific data by the bus-protocol-specific engine.

22. (Previously Presented) The configuration apparatus of claim 21, that reads out and sets application-specific pre-determined settings of the electronic apparatus that is to be configured.

23. (Previously Presented) The configuration apparatus of claim 21, wherein the configuration apparatus is provided as a computer and the configuration engine and the bus protocol-specific engine are provided as computer programs.

24. (Previously Presented) The configuration apparatus of claim 23, wherein the computer includes at least one of a personal computer (PC) and a handheld device.

25. (Currently Amended) A bus system, comprising:

a data bus; and

a plurality of electronic apparatuses each of which is one of a sensor, an actuator and a control that communicates with at least one additional electronic apparatus via a data bus using a pre-determined communications protocol and each of which comprises:

a bus interface;

a control engine that includes an application-specific engine that controls the electronic apparatus independently of ~~a~~ the pre-determined communications protocol; and

a bus protocol-specific engine that transmits and receives data via a bus interface;

wherein said application-specific engine and said bus protocol-specific engine are decoupled from one another and said bus protocol-specific engine exchanges application-specific data with said application-specific engine via a standardized interface~~,~~; and wherein data received via the standardized interface is converted into the communications protocol by the bus-protocol-specific engine and data received via the bus interface is converted into corresponding application-specific data by the bus-protocol-specific engine.

26. (Previously Presented) The bus system of claim 25, wherein each of the bus protocol-specific engines are associated with a single bus interface and a selection unit determines which bus protocol-specific engine is implemented.

27. (Currently Amended) The ~~bus system~~ configuration apparatus of claim 24, wherein the hand-held device is a PDA.